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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,596	01/16/2004	Ryuji Nishikawa	606402015900	5395

25227 7590 10/16/2008

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EXAMINER	
SANEI, HANA ASMAT	
ART UNIT	PAPER NUMBER
2889	

MAIL DATE	DELIVERY MODE
10/16/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/758,596	NISHIKAWA ET AL.	
	Examiner	Art Unit	
	HANA A. SANEI	2889	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-9 and 11-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *3,6 and 9* is/are allowed.

6)☒ Claim(s) *1,2,4,7,8 and 12-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/17/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's submission filed on 6/27/08 has been entered.

Cancellation of claim(s) 5, 10, 15 has been entered.

Claim(s) 1-4, 6-9, 11-14 are pending in the instant application.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claim(s) 1-2, 4, 7-9, 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eida et al (US 2001/0050532) in view of Ogura et al (US 6271902).

Regarding Claim 1, Eida teaches a plurality of color pixels (R, G, B pixels created by filters, See at least Fig. 8, ¶ [0067], [0201]); a plurality of color filter layers (11, “color filter,” [0067]) provided for the color pixels on an insulating substrate (1, “supporting substrate”), each of the color filter layers (11) allowing a transmission of light (as indicated by the directional “arrow,” in Fig. 3) of a color of a corresponding color pixel; an anode layer (2, “lower electrode”) formed directly on each of the color filter layers (2

in contact with 11, Fig. 8); a white electroluminescent layer (4, "organic EL element emitting white light," [0201]) formed on the anode layers (2); and a cathode layer (5, "opposite electrode," [0067]) formed on the white electroluminescent layer. Eida fails to teach the end portions of the color filter being tapered and overlapped.

In the same field of endeavor of **color filters**, Ogura teaches a device (See at least Figs. 3G, 4) having color filter layers (4, "coloring layers," Col. 12, lines 63-66); wherein end portions of the color filter layers are tapered, and the tapered end portions of adjacent color filter layers overlap each other ("edge portions of the coloring layer 4 form convex portions in the overlapped portions," Col. 12, lines 65-69 -- Col. 13, lines 1-3, Fig. 3G) in order to provide a continuous distribution of optical color filters adjacent one another with good surface smoothness and excellent optical properties, thereby reducing power consumption and providing a high speed response (Col. 6, lines 20-24).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the configuration of the color filters, as disclosed by Ogura, in the substrate of Eida in order to a provide continuous distribution of optical color filters adjacent one another with good surface smoothness and excellent optical properties, thereby reducing power consumption and providing a high speed response.

Regarding Claim 2, Eida-Ogura teaches that a step height at an overlapping portion of the color filter layers ("height of the overlapped portion is about 1.2 to 1.25 μm," Col. 13, lines 12-17 of Ogura) is smaller than a thickness of the white electroluminescent layer (5 μm, [0101] of Eida).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the configuration of the color filters, as disclosed by Ogura, in the substrate of Eida in order to a provide continuous distribution of optical color filters adjacent one another with good surface smoothness and excellent optical properties, thereby reducing power consumption and providing a high speed response.

Regarding Claim 4, Eida teaches a plurality of color filter layers (11, "color filter," [0067]; See at least Fig. 3, ¶ [0067], [0201]) provided for the color pixels (R, G, B pixels created by filters) on an insulating substrate (1, "supporting substrate"), each of the color filter layers (11) allowing a transmission of light (as indicated by the directional "arrow," in Fig. 3) of a color of a corresponding color pixel; a planarization insulating film (10, "planarizing layer," [0067]) formed on the color filter layers (11); an anode layer (2, "lower electrode") formed on the planarization insulating film (10); a white electroluminescent layer (4, "organic EL element emitting white light," [0201]) formed on the anode layers (2); and a cathode layer (5, "opposite electrode," [0067]) formed on the white electroluminescent layer. Eida fails to teach the end portions of the color filter being tapered and overlapped.

In the same field of endeavor of **color filters**, Ogura teaches a device (See at least Figs. 3G, 4) having color filter layers (4, "coloring layers," Col. 12, lines 63-66); wherein end portions of the color filter layers are tapered, and the tapered end portions of adjacent color filter layers overlap each other ("edge portions of the coloring layer 4 form convex portions in the overlapped portions," Col. 12, lines 65-69 -- Col. 13, lines 1-3, Fig. 3G) in order to provide a continuous distribution of optical color filters adjacent

one another with good surface smoothness and excellent optical properties, thereby reducing power consumption and providing a high speed response (Col. 6, lines 20-24). It should be noted that Eida-Ogura teaches that a step height at an overlapping portion of the color filter layers ("height of the overlapped portion is about 1.2 to 1.25 μm," Col. 13, lines 12-17 of Ogura) is smaller than a thickness of the white electroluminescent layer (5 μm, [0101] of Eida).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the configuration of the color filters, as disclosed by Ogura, in the substrate of Eida in order to a continuous distribution of optical color filters adjacent one another with good surface smoothness and excellent optical properties, thereby reducing power consumption and providing a high speed response.

Regarding Claim 7, Eida teaches that the planarization insulating film comprises an inorganic insulating film (SiO2 Planarizing layer, [0210], [0213]).

Regarding Claim 8, Eida teaches that the inorganic insulating film is a silicon oxide film, a TEOS film or a siliconnitride film (SiO2 Planarizing layer, [0213]).

Regarding Claim 9, Eida teaches a plurality of color filter layers (11, "color filter," [0067]; See at least Fig. 3, ¶ [0067], [0201]) provided for the color pixels (R, G, B pixels created by filters) on an insulating substrate (1, "supporting substrate"), each of the color filter layers (11) allowing a transmission of light (as indicated by the directional "arrow," in Fig. 3) of a color of a corresponding color pixel; a first planarization insulating film (10, "planarizing layer," [0067]) formed on the color filter layers (11); anode layers (2, "lower electrode") formed on the first planarization insulating film (10); a second

planarization insulating film (3, “intermediate insulating layer,” [0067]) formed so as to cover end portions of the anode layers (2); a white electroluminescent layer (4, "organic EL element emitting white light,” [0201]) formed on the anode layers (2); and a cathode layer (5, “opposite electrode,” [0067]) formed on the white electroluminescent layer. Eida fails to teach the end portions of the color filter being tapered and overlapped.

In the same field of endeavor of **color filters**, Ogura teaches a device (See at least Figs. 3G, 4) having color filter layers (4, “coloring layers,” Col. 12, lines 63-66); wherein end portions of the color filter layers are tapered, and the tapered end portions of adjacent color filter layers overlap each other (“edge portions of the coloring layer 4 form convex portions in the overlapped portions,” Col. 12, lines 65-69 -- Col. 13, lines 1-3, Fig. 3G) in order to provide a continuous distribution of optical color filters adjacent one another with good surface smoothness and excellent optical properties, thereby reducing power consumption and providing a high speed response (Col. 6, lines 20-24). It should be noted that Eida-Ogura teaches that a step height at an overlapping portion of the color filter layers (“height of the overlapped portion is about 1.2 to 1.25 μm,” Col. 13, lines 12-17 of Ogura) is smaller than a thickness of the white electroluminescent layer (5 μm, [0101] of Eida).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the configuration of the color filters, as disclosed by Ogura, in the substrate of Eida in order to a continuous distribution of optical color filters adjacent one another with good surface smoothness and excellent optical properties, thereby reducing power consumption and providing a high speed response.

Regarding Claim 12, Eida teaches that the first planarization insulating film comprises an inorganic insulating film (SiO2 Planarizing layer, [0210], [0213]).

Regarding Claim 13, Eida teaches that the inorganic insulating film is a silicon oxide film, a TEOS film or a siliconnitride film (SiO2 Planarizing layer, [0213]).

Regarding Claim 14, Eida teaches a first pixel of a first color (R or G or B pixels created by filters, See at least Fig. 3, ¶ [0067], [0201]); a second pixel (R or G or B pixels created by filters, Fig. 3) of a second color disposed adjacent the first pixel; a first color filter layer (11-R, "color filter," [0067]) provided for the first pixel and allowing a transmission of light (as indicated by the directional "arrow," in Fig. 3) of the first color; a second color filter layer (11-G) provided for the second pixel and allowing a transmission of light of the second color; a first anode layer (2, "lower electrode") formed on the first color filter layer (11-R); a second anode layer (2^{nd} 11) formed on the second color filter layer (11-G); a white electroluminescent layer (4, "organic EL element emitting white light," [0201]) formed on the first and second anode layers (1^{st}, 2^{nd} 11); and a cathode layer (5, "opposite electrode," [0067]) formed on the white electroluminescent layer. Eida fails to teach the end portions of the first and second color filter layers being tapered and overlapped.

In the same field of endeavor of **color filters**, Ogura teaches a device (See at least Figs. 3G, 4) having color filter layers (4, "coloring layers," Col. 12, lines 63-66); wherein end portions of the color filter layers are tapered, and the wherein the first color filter (red, 4) is thinner than the second color filter (green, 4, the overlapped portion of the green pigment of 4 essentially has a *partial portion* that is greater in thickness than

the red pigment of 4, Fig. 3G of Ogura). tapered end portions of adjacent color filter layers overlap each other ("edge portions of the coloring layer 4 form convex portions in the overlapped portions," Col. 12, lines 65-69 -- Col. 13, lines 1-3, Fig. 3G) in order to provide a continuous distribution of optical color filters adjacent one another with good surface smoothness and excellent optical properties, thereby reducing power consumption and providing a high speed response (Col. 6, lines 20-24).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the configuration of the color filters, as disclosed by Ogura, in the substrate of Eida in order to a continuous distribution of optical color filters adjacent one another with good surface smoothness and excellent optical properties, thereby reducing power consumption and providing a high speed response.

Allowable Subject Matter

A. Claim(s) 3 are allowed over the prior art of record.

The following is an examiner's statement of reasons for allowance:

The prior art of record teaches a color electroluminescent display device comprising: a plurality of color pixels; a plurality of color filter layers provided for the color pixels on an insulating substrate, each of the color filter layers allowing a transmission of light of a color of a corresponding color pixel; an anode layer formed directly on each of the color filter layers; a white electroluminescent layer formed on the anode layers; and a cathode layer formed on the white electroluminescent layer, wherein end portions of the color filter layers are tapered, and the tapered end portions of adjacent color filter layers overlap each other.

However, the prior art of record neither anticipates nor renders obvious to one ordinary skilled in the art the color electroluminescent display device comprising the various elements as claimed above in combination with the specific limitation of the color filter layers having different thicknesses and end portions of thinner color filter layers being disposed on end portions of thicker color filter layers as set forth in Claim 3.

B. Claim(s) 6 are allowed over the prior art of record.

The following is an examiner's statement of reasons for allowance:

The prior art of record teaches a color electroluminescent display device having a plurality of color pixels, comprising: a plurality of color filter layers provided for the color pixels on an insulating substrate, each of the color filter layers allowing a transmission of light of a color of a corresponding color pixel; a planarization insulating film formed on the color filter layers; anode layers formed on the planarization insulating film; a white electroluminescent layer formed on the anode layers; and a cathode layer formed on the white electroluminescent layer, wherein end portions of the color filter layers are tapered, and the tapered end portions of adjacent color filter layers overlap each other.

However, the prior art of record neither anticipates nor renders obvious to one ordinary skilled in the art the color electroluminescent display device comprising the various elements as claimed above in combination with the specific limitation of the color filter layers having different thicknesses and end portions of thinner color filter layers being disposed on end portions of thicker color filter layers as set forth in Claim 6.

C. Claim(s) 11 are allowed over the prior art of record.

The following is an examiner's statement of reasons for allowance:

The prior art of record teaches a color electroluminescent display device having a plurality of color pixels, comprising: a plurality of color filter layers provided for the color pixels on an insulating substrate, each of the color filter layers allowing a transmission of light of a color of a corresponding color pixel; a first planarization insulating film formed on the color filter layers; anode layers formed on the first planarization insulating film; a second planarization insulating film formed so as to cover end portions of the anode layers; a white electroluminescent layer formed on the anode layers; and a cathode layer formed on the white electroluminescent layer; wherein end portions of the color filter layers are tapered, and the tapered end portions of adjacent color filter layers overlap each other.

However, the prior art of record neither shows nor suggests a motivation for the color filter layers having different thicknesses and end portions of thinner color filter layers being disposed on end portions of thicker color filter layers as set forth in Claim 11.

Response to Arguments

Applicant's arguments filed on 6/27/08 have been fully considered but they are not persuasive.

A. In response to Applicant's arguments that Eida et al (US 2001/0050532) - Ogura et al (US 6271902) do not disclose the step height at the “overlapping portion” of the of the color filter layer being smaller than the thickness of the white electroluminescent layer, the Examiner respectfully disagrees.

Examiner maintains that Eida-Ogura teaches that a step height at an overlapping portion of the color filter layers ("height of the overlapped portion is about 1.2 to 1.25 μm," Col. 13, lines 12-17 of Ogura) is smaller than a thickness of the white electroluminescent layer (5 μm, [0101] of Eida) so as to reduce power consumption and providing a high speed response (Col. 6, lines 20-24).

Firstly, Examiner introduces Ogura for the sole purpose of providing an advantageous configuration of a color filter layer. Secondly, for purposes of consistency, once Examiner taught the color filter layer of Eida being modified by Ogura's color filter layer configuration, Examiner considered the upper boundary of the "step height" of Ogura and similarly the upper boundary of the white electroluminescent layer thickness. Ogura teaches a "step height" being 1.2 to 1.25 μm and Eida teaches "thickness" of the white electroluminescent layer being 0.005 μm to 5 μm. It should be noted that Examiner is not selecting a lower boundary of one range pertaining to an element and then selecting an upper lower. That Examiner is limiting the consideration of subsequent range selection to be in the upper boundary, a consistency of consideration is thereby established.

Furthermore, Ogura does teach the first color filter (red, 4) being thinner than the second color filter (green, 4, the overlapped portion of the green pigment of 4 essentially has a *partial portion* that is greater in thickness than the red pigment of 4, Fig. 3G of Ogura). As stated in the rejection, Examiner understands the partial portions or edge portions of the red filter being thinner than the green filter as viewed in Fig. 3G.

For the reasons stated above, the rejection of the claims is deemed proper.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hana A. Sanei whose telephone number is (571)-272-8654. The examiner can normally be reached on Monday- Friday, 9 am - 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minh-Toan Ton can be reached on (571) 272-2303. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Hana A. Sanei/
Examiner

/Toan Ton/
Supervisory Patent Examiner
Art Unit 2889